

Performance Assessment

Ames Laboratory

Calendar Year 2003



**U.S. Department of Energy
Ames Site Office**

April 30, 2004

I. SUMMARY EVALUATION

In accordance with the terms of contract W-7405-ENG-82 between the Department of Energy (DOE) and Iowa State University (ISU) for the management and operation of Ames Laboratory, the incentivized portion of the Laboratory's performance is comprised of Performance Measures which are divided into two major categories, Science Programs and Critical Operations. A summary adjectival rating is issued for each category by the DOE, Ames Site Office (AMSO). A written assessment, including both the incentivized Performance Measures and the System Assessment Measures is completed on an annual basis.

As a result of the Laboratory's research efforts in the last available rating cycle of calendar year (CY) 2003, a performance rating of "outstanding" has been achieved in the area of Science Programs. In the area of Critical Operations an "outstanding" rating was achieved.

The following matrix identifies the incentivized functional areas and ratings used in determining the performance fee for CY 2003.

CY 2003 Performance Measures Ratings

CY 2003 Performance Measures Ratings	Ames Self-Assessment Rating	DOE Rating	Final Rating	Weight
Science Programs (Functional Area)				
Science and Technology	Outstanding	Outstanding	Outstanding	70%
Critical Operations (Functional Areas)				
Environment Safety and Health	Outstanding	Outstanding	Outstanding	20%
Strategic Guidance Oversight and Management	Outstanding	Outstanding	Outstanding	10%

The System Assessment Measures (SAMs) are used to evaluate the General Operations of the Ames Laboratory. While important to the success of the Laboratory mission, the SAMs for General Operations are not associated with fee. Sixteen separate functional areas constitute the CY 2003 SAMs. Each area was assessed and rated by the assigned functional area subject matter experts. The following matrix identifies the functional areas and their associated ratings:

SYSTEM ASSESSMENT MEASURES

Functional Area	Ames Self-Assessment Rating	Final DOE Rating
BUSINESS OPERATIONS (Functional Areas)		
Environment Safety and Health	Outstanding	Outstanding
Environmental Operations	Outstanding	Outstanding
Financial Management	Outstanding	Outstanding
Diversity	Outstanding	Good
Procurement	Outstanding	Outstanding
Training	Outstanding	Outstanding
Scientific and Technical Information	Outstanding	Outstanding
Information Management	Outstanding	Outstanding
Safeguards and Security	Outstanding	Outstanding
Cyber Security	Outstanding	Outstanding
Counterintelligence	Excellent	Excellent
Human Resources	Excellent	Excellent
Personal Property	Excellent	Excellent
Communications and Trust	Outstanding	Outstanding
Infrastructure	Outstanding	Outstanding
Technology Transfer and Work for Others	Outstanding	Excellent

II. PERFORMANCE ASSESSMENT

ISU and DOE have agreed to use a performance-based management system to measure Laboratory performance. The parties agreed, to the extent possible, to utilize objective performance measures as the basis against which the Contractor's overall performance would be determined. In addition, the parties agreed that the Laboratory would implement a self-assessment program to assess the effectiveness and efficiency of operational systems and procedures.

The following summarizes DOE's written evaluation and rating of the Laboratory's performance. This evaluation is discussed in two sections, Performance Measures and System Assessment Measures.

A. Performance Measures**1. Science Programs**

For the most recent period, CY 2003, the Office of Science (SC) overall appraisal of the science and technology programs was "outstanding" on a scale of unsatisfactory, marginal, good, excellent and outstanding. The rating is based on a weighted average of performance evaluations provided by each SC program office according to the value of each office's expenditures. Three SC program offices contributed to this rating: Basic Energy Sciences (BES), Biological and Environmental Research (BER), and Advanced Scientific Computing Research (ASCR). The overall rating is a composite of the SC assessment of the Laboratory's scientific performance against three measures contained in the contract: (1) quality of research, (2) relevance to DOE missions and national needs, and (3) effectiveness and efficiency of research program management.

CY 2003 Office of Science Ames Laboratory Appraisal

	Quality of Research	Relevance	Management	Overall Program Rating
BES	3.5-O	3.7-O	3.5-O	3.6-O
BER	3.8-O	3.6-O	3.5-O	3.6-O
ASCR	3.7-O	3.6-O	3.6-O	3.6-O
Overall	3.5-O	3.7-O	3.5-O	3.6-O

Basic Energy Sciences (BES)

The overall rating for BES was "outstanding". Reviewer's comments are summarized as follows:

The Condensed Matter Physics and Materials Chemistry programs were judged to be outstanding during the last review, with numerous examples of research accomplishments and forward-looking projects. World class projects include: growth of highly crystalline materials; photonic band gap materials, quasicrystals; superconductors and vortices; spin dynamics, and photoemission of high TC superconductors. Harmon et al. are leading the development of the computational materials science network. The Laboratory has attracted outstanding new investigators in the past year. The theory program continues to be outstanding and relevant with regard to the computational aspects of materials science. Collaborative efforts are working in the Condensed Matter Physics and Materials Chemistry programs. Especially noteworthy is that teams are generally formed in the ideal manner, by first originating as cooperative efforts among the bench scientists and only later being formalized administratively.

The new Catalysis Program is a very positive step for the Laboratory's chemistry research and the Laboratory is encouraged to continue building these kinds of research programs. The research projects in magnetism, photonic band gap materials, superconductivity, quasicrystals, computational materials science, and polymers are highly relevant to Condensed Matter Physics and Materials Chemistry program goals, the Department's missions, and National needs. The same is true for the Materials and Engineering Physics program. Ames has become a major new source of new materials and, more importantly, a source of new, young investigators who can produce new materials.

Management of the Condensed Matter Physics and Materials Chemistry Program is outstanding. The quality of science, a high degree of collaboration and cooperation and the hiring of promising young scientists all indicate an effective operation. The Laboratory is able to attract and keep world class scientists. This should make Ames a major force in producing new materials and crystals needed for neutron scattering, and in the characterization of such materials.

The new program coordinator for the Materials and Engineering Physics program has been responsive to BES program guidance. Program management has established excellent collaborations within the Laboratory,

the Materials Science and Engineering Department on the campus of ISU and with the broader scientific community.

Laboratory management for the Chemistry research program has responded to the request from BES to seek research problems of difficulty and scope more appropriate to the collaborative research environment of a national laboratory and also to seek more opportunities for partnering with ISU in areas where complimentary strengths exist. Successful competition for funding of a multi-investigator, multidisciplinary catalysis research effort and the recent submission of a laboratory/university collaborative proposal in plant metabolomics are excellent examples of activities that will ultimately strengthen the laboratory's contributions to BES research portfolios. Laboratory management is encouraged to continue in this spirit as future opportunities arise.

Biological and Environmental Research (BER)

The overall rating of Ames Laboratory by BER was "outstanding". Comments from BER include:

The quality of scientific research in the BER program is very high. The project to develop innovative imaging technologies to detect cancer has made important contributions to the scientific field. The project on nuclear imaging of gene expression fills an important niche of the collaborative research consortium among Ames, Brookhaven National Laboratory and Lawrence Berkeley National Laboratory. The new project is well planned, coordinated and managed.

Advanced Scientific Computing Research (ASCR)

The overall rating of Ames Laboratory by ASCR was "outstanding". Comments from ASCR include:

The work at Ames is especially relevant to computational chemistry applications. Ames is actively involved in the development of scalable systems software for very large Linux clusters, and this work will accelerate their effective use within SC applications. Coordination and interaction with research activities throughout the SC laboratory community continues to improve.

The DOE overall rating is consistent with the Laboratory's self-assessment rating for Science Programs Performance Measures of "outstanding".

2. Critical Operations

DOE has assessed Ames Laboratory performance in critical operations as "outstanding" for CY 2003. This performance rating is based upon the Laboratory's level of performance achieved against the Critical Operations performance measures. The following provides a summary of each of the functional areas, Environment, Safety and Health (ES&H), and Strategic Guidance, Oversight and Management:

a. Environment Safety and Health

During CY 2003 Laboratory Management continued to demonstrate strong commitment to effective implementation of Integrated Safety Management (ISM). All of the performance expectations established under this area were completed at the outstanding level. Process improvements were implemented in six specified areas to continue to improve the ISM system implementation. The Laboratory significantly reduced the number of concerns identified in routine independent walk-throughs and 100% of the associated corrective actions were completed within the 60 day target. A 30% decrease in the number of electrical safety concerns is of note. Significant progress was made in developing an Environmental Management System and incorporating this system within under the ISM system. Significant reductions were achieved in the radioactive materials inventory. The Laboratory's injury and illness data were among the best of the SC Laboratories for CY 2003 and support the "outstanding" rating.

The DOE rating of "outstanding" is consistent with the Laboratory's self-assessment.

b. Strategic Guidance, Oversight and Management

To meet the objectives in this area, ISU and Ames Laboratory's Senior Management targeted development of significant initiatives that support the Laboratory's core competencies and also capitalize on the strengths of ISU's biological and plant sciences programs and the strengths of the Laboratory in materials research. The first initiative "Transformation Pathways in the Condensed State" has progressed to the proposal stage. The second initiative "Coupling the Physical and Biological Sciences in the Ames Laboratory" is developing via four subparts: 1) Plant Metabolomics, 2) Bioinspired Materials, 3) Single-Cell Materials and 4) Protein-Induced Structural Transformations. The Lab is actively pursuing other major initiatives such as a Wind Hydrogen project.

ISU and Ames Laboratory developed a plan to share faculty and staff to the benefit of both institutions. The staffing plan enhances the objectives of both growing the Laboratory and maintaining the core competencies. ISU is working the Laboratory to attract and retain world-class researchers and has been successful with several key hires in this contract cycle.

Laboratory Management has been highly responsive to DOE. They have implemented changes in the management of certain research programs and they continue to strive for and achieve outstanding performance in all areas of operations including business systems, environment, safety, health and security.

The DOE rating is consistent with the Laboratory's self-assessment rating of "outstanding".

B. System Assessment Measures:

1. Environment, Safety & Health

DOE has assessed Ames performance in this area as "outstanding".

The ES&H functional area included three measures, performance of ES&H reviews, Total Recordable Case Rate (TRC) and a measure targeting risk reduction associated with x-ray devices. The Laboratory's results for the performance period equated to a rating of "outstanding" for each of expectations associated with these three measures. The Laboratory's TRC for CY 2003 was 0.6 with two cases for the year.

The Occupational Safety and Health Administration (OSHA) and the Nuclear Regulatory Commission both conducted reviews during CY 2003. The Laboratory promptly initiated corrective actions to OSHA identified compliance items. The radiation safety program received a very favorable review from OSHA. Significant progress was made in developing an Environmental Management System which is being incorporated into the Laboratory's ISMS. The Laboratory engaged Region VII of the Environmental Protection Agency in this effort.

Program reviews were conducted in many areas of ES&H. Significant changes were made in chemical management to address deficiencies noted during an Inspector General Audit of shock-sensitive chemicals.

DOE's rating as stated above is consistent with the Laboratory's self-assessment rating of "outstanding".

2. Financial Management

The CY 2003 DOE rating for this area is "outstanding". The rating was based on subject matter expert comments which included the following:

The lab continues to have two performance measures for finance and does an outstanding job in monitoring these measures. Minor instances of excess uncosted balances were out of the labs control.

The lab self assessed the following areas: Travel Management, Property Accounting, Budget Execution Process, and Internal Audit. Each of these areas has good internal controls and is well run. The lab does not have any open accounting or budget issues at this time.

DOE's rating as stated above is consistent with the Laboratory's self-assessment rating of "outstanding".

3. Diversity

DOE has determined the Laboratory's performance in the functional area of Diversity to be rated as "good".

At the mid-year, guidance was provided to the Laboratory regarding the self-assessment of diversity performance specifying the need to address retention efforts, including training, career development opportunities and other self-renewal efforts. This information was not provided. Recruitment results were discussed, but no information was provided on the applicant pool of recent hires. The year-end results indicate a percentage increase in minorities and females during the year. There is no information to show whether this was the result of planning or attrition. The year-end report refers the self-assessment

for Diversity to the Human Resources (HR) self-assessment. However, this section does not include discussion of diversity. There are no opportunities for improvement described for diversity. As in the prior self-assessment, diversity is not identified as an element of the personnel management/HR area. Last year it was recommended that the Laboratory reconsider their HR mission to include diversity. The rating was reduced due to the lack of review and discussion on the status of diversity within the Laboratory.

Ames Laboratory rated its performance of Diversity measures to be "outstanding". The DOE rating of "good" is lower than the self-assessment.

4. Procurement

DOE has assessed Ames Laboratory performance in the functional area of Procurement as "outstanding".

The Laboratory performed a Balanced Score Card (BSC) assessment of the procurement function according to their BSC assessment plan and exceeded DOE targets in 15 of the 17 BSC objectives. The Laboratory achieved a point score of 98.6, which correlates to an "outstanding".

The Laboratory's Procurement Office provided a thorough self-assessment of all identified items as stated in the CY 2003 self-assessment scope, including a complete review of the Make or Buy program.

The DOE rating as stated above is consistent with the Laboratory's self-assessment rating of "outstanding".

5. Training

DOE has assessed Ames Laboratory performance in the functional area of Training as "outstanding".

The Laboratory has a well defined system of maintaining and tracking training records for each of its employees. The Laboratory has focused on ensuring that workers maintain current training. Training completion rates for 43 training modules were completed at an outstanding level. The laboratory continues to improve their computerized training system. A comprehensive self-assessment is maintained in this area.

The DOE rating as stated above is consistent with the Laboratory's self-assessment rating of "outstanding".

6. Scientific & Technical Information

DOE has assessed Ames Laboratory's performance in this functional area of Scientific and Technical Information as "outstanding".

The Laboratory met the objective of submitting 100% of technical reports electronically to the Office of Scientific and Technical Information due by December 31, 2003. The Laboratory has developed a structured Scientific and Technical Information (STI) program and is focused on continuous improvement. Numerous examples of improvements were provided in the comprehensive self-assessment.

The DOE rating as stated above is consistent with the Laboratory's self-assessment rating of "outstanding".

7. Information Management

DOE has assessed Ames performance in the functional area of Information Management (IM) as "outstanding".

The HP3000 conversion has been identified as a high priority project due to the discontinuation of HP support on December 31, 2006. Ames has continued efforts relating to the migration off the HP3000 platform. Significant progress has been made in addressing improvement opportunities in the areas of system enhancements, new technology implementations, and documentation. Ames has identified additional improvement opportunities to ensure the effective IM support continues.

The DOE rating as stated above is consistent with the Laboratory's self-assessment rating of "outstanding".

8. Safeguards and Security

DOE has assessed Ames performance in the functional area of Safeguards and Security as "outstanding".

Based on the self-assessment and previous safeguards and security inspections, Ames Laboratory continues to provide assurance that appropriate protective measures are in place to protect government property and special nuclear material. Ames Laboratory has been responsive and innovative in managing the additional requirements implemented due to heightened security. In the material control and accountability (MC&A) area, Ames Laboratory significantly reduced its nuclear material inventory by identifying material with no programmatic use. The material has been transferred off site using appropriate disposition paths. Also, MC&A reporting has been timely. Error rates for data submission to the Nuclear Material Management and Safeguards System (NMMSS) have been significantly below the HQs goal of two percent.

The DOE rating as stated above is consistent with the Laboratory's self-assessment rating of "outstanding".

9. Cyber Security

DOE has assessed Ames performance in the functional area of cyber security as "outstanding".

The Cyber Security Program continues to perform well with a very low rate of serious Cyber Security Incidents. In the last year, signs of increased threat have included a shorter time between published software vulnerabilities and exploitation of the vulnerability in the wild and an increase targeting of share user facilities.

Network segments scanned in 2003 included subnets that contained over 600 of the 1000 plus connected systems. Computing systems with high and moderate vulnerabilities were identified and system administrators were notified. Corrective action guidance was provided in the

correspondence. Follow up correspondence with system administrators and additional system vulnerability scans are on-going to verify that corrective actions are being taken. Network activity and analysis of activity that has the potential to result in vulnerabilities are under continuous review to mitigate risks associated with the introduction of malicious software. Ames Laboratory has initiated efforts in the areas of wireless network security and modem control, including implementation of new security tools and processes. The Laboratory has also taken steps to update security documentation required by the new DOE Order 205.1, as well as implement a Certification and Accreditation program for unclassified systems. Future self-assessments should provide details on the specific number and type of vulnerabilities that were detected and corrected along with the rating.

The DOE rating as stated above is consistent with the Laboratory's self-assessment rating of "outstanding".

10. Counterintelligence

DOE has assessed Ames performance in the functional area of Counterintelligence (CI) as "excellent".

The annual CI refresher briefing was provided to all employees. Trip reports are submitted on a timely basis. The Lab has done an outstanding job in documenting foreign national visitors and assignees, and integrating new requirements concerning passport and visa requirements. There are an increasing number of employees at the Laboratory who are becoming more familiar with the role of the CI Program. In general, employees have had a very cooperative attitude in supporting the CI initiative. There were no reports of elicitation. Foreign nationals are being entered into FACTS with few errors, and mandatory fields are properly documented.

The DOE rating as stated above is consistent with the Laboratory's self-assessment rating of "excellent".

11. Human Resources

DOE has assessed Ames performance in this functional area of Human Resources (HR) as "excellent".

The HR staff has been vigilant in reviewing their exempt professional and scientific positions to ensure appropriate classification. The Laboratory completed the required 20% to warrant the "outstanding" rating for this expectation. Overall 80% have been achieved indicating an outstanding effort of meeting the goal of a 100% review within 5 years.

It is noteworthy that management and HR emphasis has resulted in the organization embracing a formal appraisal system resulting in a completion rate of 89% participation. There were no formal grievances filed relative to performance appraisals. The 89% completed justifies the excellent rating for this expectation.

Checks are in place to ensure accuracy in the processing of compensation decisions. Internal controls and written procedures are in place. An

excellent rating on this expectation was supported due to the internal controls and written procedures used under the compensation program.

The DOE overall rating as stated above is consistent with the Laboratory's self-assessment rating of "excellent".

12. Personal Property

DOE has assessed Ames performance in the functional area of Personal Property as "excellent".

The Ames Laboratory Property Services Office assessment utilized the DOE Contractor Personal Property Management Balanced Scorecard (BSC) Performance Measurement and Management Program as the standard to assess their CY 2003 performance. During this reporting period the Laboratory was subject to 13 of the reportable BSC measures with associated national targets. The Laboratory exceeded 10 of those targets, 2 were met, and 1 did not meet the expectations.

The Laboratory identified areas of excellence and identified opportunities for improvement for 2004. The Laboratory meets all applicable reporting requirements.

The DOE rating as stated above is consistent with the Laboratory's self-assessment rating of "excellent".

13. Communications & Trust

DOE has assessed Ames performance in the functional area of Communications and Trust as "outstanding".

The Laboratory and DOE agreed that the Laboratory would perform against a prescribed set of planned actions and then determine the rating based on how many of the specific actions were accomplished during the assessment period. These actions were negotiated prior to the beginning of the assessment period. All expectations were accomplished, which equates to a rating of "outstanding". No outstanding issues were identified.

Ames is diligent about regularly contributing to the CH communications report to HQ regarding on-going operations, and the two groups regularly communicate on non-routine public affairs activities.

The DOE rating of "outstanding" is consistent with the Laboratory's self-assessment.

14. Facilities Management

DOE has assessed Ames performance in the functional area of Facilities Management as "outstanding".

a. Facilities Management

Facilities Management covers both the Maintenance and Real Property Management functional areas, which are discussed in greater detail below

(1) Maintenance

Maintenance at the Laboratory has been an area of significant management attention. Processes for fully capturing maintenance costs were reviewed and modified to ensure that data for performance metrics is accurate. At 1.5%, Ames exceeded the SC target value for the Maintenance Investment Index (MII) for FY 2004 set at 1.4% and continues to improve the facility condition index. The Laboratory continues to look for opportunities to improve productivity and reduce costs of maintenance. Significant efforts will be needed for preparing the upcoming Ten Year Site Plan.

(2) Real Property Management

One of the Laboratory's objectives for Real Property is to fully populate the Facilities Information Management System and associated fields with accurate information for all real property assets at Ames. The completeness and timeliness of the Laboratory's data is reflected in the FIMS status reports that are reviewed by DOE quarterly. A monthly reconciliation by asset type is also completed to ensure the cost associated with the facilities reconciles with the accounting books. All required data fields for buildings, land, and other structures and facilities within FIMS were current, complete and in accordance with the Laboratory's assessment.

The DOE rating of "outstanding" is consistent with the Laboratory's self-assessment.

15. Technology Transfer and Work for Others

DOE has assessed Ames performance in this area as "excellent".

One of the expectations calls for the Laboratory to take a proactive approach to public outreach through various activities. The Laboratory has done a credible job with press releases and meeting with potential partners, but had not completed the new internal or external web pages by the end of this contract cycle. The Laboratory self-assessment of the other two expectations on addressing program accountability and compliance with requirements was at the "outstanding" level of performance. For CY 2003, outreach and technology activities and Work for Others activities increased with new projects and extensions of existing work. Procedural controls were enhanced during this period.

The DOE rating of "excellent" is lower than the Laboratory's self-assessment.

FEE DETERMINATION:

The Ames Laboratory achieved an "outstanding" rating for the Science Programs. Critical Operations consisted of two functional areas: Environmental Safety and Health and Strategic Guidance, Oversight and Management. Each Functional Area was rated individually as "outstanding". The Performance Fee Matrix uses these performance ratings to calculate a CY 2003 fee of \$100,000.

Attachment:
Performance Fee Matrix

Modification No.
 Contract No. W-7405-ENG-82
 January 1, 2003 – December 31, 2003

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Performance Fee Matrix
 Ames Laboratory
 Contract No. W-7505-ENG-82
 January 1, 2003 through December 31, 2003

